II. REMARKS

Claims 1-23 are pending. Claims 13-21 and 23 are allowed, and the Applicants' attorney has amended claims 1 and 22. In light of the following, all of the claims as amended are now in condition for allowance, and, therefore, the Applicants' attorney requests the Examiner to withdraw all of the outstanding rejections. Furthermore, if after considering this response the Examiner does not allow all the claims, the Applicant's attorney requests that the Examiner contact him to schedule a teleconference to further the prosecution of the application.

Rejection of Claims 1-3, 6-7, and 10 Under 35 U.S.C. § 102(b) As Being Anticipated By U.S. Patent 5,384,671 To Fisher

Claim 1

Claim 1 as amended recites a synchronous partial-response-maximum-likelihood servo channel operable to recover servo data from servo wedges, the servo channel at all times being inoperable to recover data from data sectors.

For example, referring, *e.g.*, to FIGS. 5, 13, and 19 and the corresponding written description in the patent application, a servo circuit 30 includes a Viterbi detector 56 that is constructed to recover servo data from servo wedges, but not application data from data sectors. Specifically, the trellis (FIG. 13) according to which the Viterbi detector 56 operates is pruned according to the coding scheme of the servo data. Because the application data is coded differently than the servo data, the Viterbi detector cannot, at any time, recover the application data from the data sectors — another Viterbi detector recovers the application data. This allows the servo data and application data to have different spectrums (*e.g.*, PR4) and significantly different coding schemes because each Viterbi detector can be pruned and otherwise customized for the respective data (servo or application) that it recovers.

In contrast, Fisher does not disclose a synchronous partial-response-maximum-likelihood servo channel operable to recover servo data from servo wedges but at all times being inoperable to recover data from data sectors.

Referring, *e.g.,* to FIG. 4, col. 2, lines 48-51, and col. 13, line 48 – col. 14, line 10, Fisher discloses a single Viterbi detector 50 — a Viterbi detector is a synchronous partial-response-maximum-likelihood detector — that recovers both servo data from servo wedges and application data from data sectors. That is, the servo data has the same spectrum (*e.g,* PR4) and a similar coding scheme as the application data such that the Viterbi detector 50 can and does recover both the servo data and the application data. Therefore, although the Viterbi detector 50 may be unable to recover application data while it is recovering servo data, the detector 50 does recover application data at other times. Consequently, in contrast to the claimed servo channel, the Viterbi detector 50 is sometimes operable to recover application data.

Claims 2-3, 6-7, and 10

These claims are patentable by virtue of their dependencies from claim 1.

Rejection of Claims 4, 8-9, and 11 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Fisher In View Of U.S. Patent 6,108,151 to Tuttle et al.

As discussed below, the Applicants' attorney disagrees with this rejection.

Claim 9

Claim 9 recites a processor operable to detect one of the servo wedges during or after a disk spin-up search operation without first detecting a spin-up wedge, the detected servo wedge being the first servo wedge detected after initiation of the disk spin-up search operation.

For example, referring, *e.g.*, to FIGS. 4-8 and the corresponding text of the patent application, a servo circuit 30 (FIG. 5) can detect and recover servo data from a first-detected servo wedge on spin up of a disk without first detecting a spin-up wedge (*e.g.,* a DC-erase field 158 (FIG. 17)). The circuit 30 does this by asynchronously detecting the preamble of the first-detected servo wedge as described on pp. 11-14. This allows one to eliminate the spin-up wedges from the disk, thus allowing more space to store application data.

In contrast, neither Fisher nor Tuttle, nor their combination, teaches or suggests detecting a servo wedge during or after a disk spin-up search operation without first detecting a spin-up wedge, where the detected servo wedge is the first servo wedge detected after initiation of the disk spin-up operation. Referring, *e.g.,* to FIG. 2A, col. 6, line 60 – col. 7 line 48, and col. 13 lines 12-47, Fisher's circuit 10 (FIG. 4) must first detect an asynchronous servo address mark 124 (*i.e.*, a DC erase spin-up wedge) on initialization (*i.e.*, spin up) of the disk before the circuit can detect and recover servo data from a first servo wedge. Similarly, referring, *e.g.,* to FIG. 3 and col. 15 lines 13-30, Tuttle's servo address mark detector A126 must first detect an asynchronous servo address mark on initialization of the disk before Tuttle's circuit can detect and recover servo data from a first servo wedge.

Claims 4, 8, and 11

These claims are patentable by virtue of their dependencies from claim 1.

Rejection of Claim 12 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Fisher in View of U.S. Patent 5,818,655 to Satoh et al.

This claim is patentable by virtue of its dependency from claim 1.

Rejection of Claim 22 Under 35 U.S.C. § 103(a) As Being Unpatentable Over Tuttle in View of Fisher

As discussed below, the Applicants' attorney disagrees with this rejection.

Claim 22 as amended recites asynchronously detecting a servo sector while or after the disk rotates from a first to a steady-state speed without first detecting a spin-up wedge, the servo sector being the first servo sector detected after the disk begins to rotate from the first speed.

For example, referring, *e.g.*, to FIGS. 4-8 and the corresponding text of the patent application, a servo circuit 30 (FIG. 5) can detect and recover servo data from a first-detected servo wedge on spin up of a disk without first detecting a spin-up wedge (*e.g.,*

a DC-erase field 158 (FIG. 17)) by asynchronously detecting the preamble of the servo wedge as described on pp. 11-14. This allows one to eliminate the spin-up wedges from the disk, thus allowing more space to store application data.

In contrast, neither Fisher nor Tuttle, nor their combination, teaches or suggests asynchronously detecting a servo sector while or after the disk rotates from a first to a steady-state speed without first detecting a spin-up wedge, the servo sector being the first servo sector detected after the disk begins to rotate from the first speed. Referring, *e.g.,* to FIG. 2A, col. 6, line 60 – col. 7 line 48, and col. 13 lines 12-47, Fisher's circuit 10 (FIG. 4) can asynchronously detect a first servo wedge on initialization, *i.e.*, spin up, of the disk only by first detecting an asynchronous servo address mark 124 (*i.e.*, a DC erase spin-up wedge). Only after detecting the first servo wedge on disk initialization can the circuit 10 synchronously detect subsequent servo wedges without first detecting the servo address mark 124. Similarly, referring, *e.g.,* to FIG. 3 and col. 15 lines 13-30, Tuttle's circuitry (servo address mark detector A126) can asynchronously detect a first servo wedge on initialization of the disk only by first detecting a servo address mark, *i.e.,* a DC erase spin-up wedge.

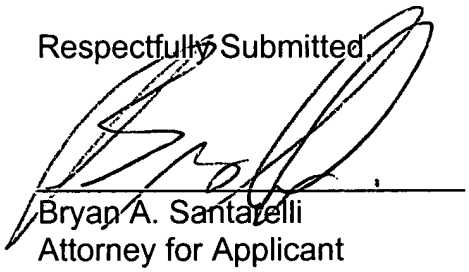
Conclusion

In light of the foregoing and in addition to the allowed claims 13-21 and 23, claims 1-8 and 10-12 as previously pending and claims 1 and 22 as amended are in condition for full allowance, which is respectfully requested.

In the event additional fees are due as a result of this amendment, payment for those fees has been enclosed in the form of a check. Should further payment be required to cover such fees you are hereby authorized to charge such payment to Deposit Account No. 07-1897.

DATED this 29th day of November, 2004.

Respectfully Submitted,



Bryan A. Santarelli
Attorney for Applicant
Registration No. 37,560
155 – 108th Ave. NE, Suite 350
Bellevue, WA 98004-5973
(425) 455-5575